

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 08198772
PUBLICATION DATE : 06-08-96

APPLICATION DATE : 01-03-95
APPLICATION NUMBER : 07041734

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INT.CL. : A61K 38/00 A61K 38/00 A61K 9/14
A61K 47/26 A61K 47/32 A61K 47/36
A61K 47/38 C07K 14/535

TITLE : POWDERY TRANSNASAL
PREPARATION CONTAINING
GRANULOCYTE COLONY
STIMULATION FACTOR (G-CSF)

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Met Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu
-1 +1          5          10          15
Lys Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu
          20          25          30
Gln Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu
          35          40          45
Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser
          50          55          60
Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His
          65          70          75
Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile
          80          85          90          95
Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala
          100          105          110
Asp Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala
          115          120          125
Pro Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala
          130          135          140
Phe Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser
          145          150          155
Phe Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
160          165          170

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ABSTRACT : PURPOSE: To provide a granulocyte colony-stimulating factor (G-CSF)-containing transnasal powdery preparation which contains G-CSF and saccharides and can allow the patients to safely absorb G-CSF through the nasal mucosa efficiently, thus is effective for treating dyshematopiosia or a chemical therapy or radioactive therapy therefor and on bone marrow transplantation.

CONSTITUTION: This pharmaceutical preparation comprises (A)G-CSF (for example, a polypeptide having the amino acid sequence of the formula and a human G-CSF activity, or a glycoprotein having a saccharide chain linked to the polypeptide, (B) a saccharide such as mannitol, lactose or the like, further, when needed, (C) a carboxyvinyl polymer, polyvinyl pyrrolidone, a agar powder, arabic gum, gelatin, hyaluronic acid or a salt thereof, hydroxypropyl cellulose or crystalline cellulose and can be transnasally given in a dose of 1-5,00, particularly 5-100µg/kg body weight/day of the component (A).

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